

Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 8, with the following rewritten paragraph:

In the electrocardiogram, and especially in the electroencephalogram (EEG), it is important to monitor the impedance of the electrodes attached to the ~~patent~~ patient in order to ensure a good quality of the signal. Usually this happens by conducting a small high-frequency current (20-200 kHz) into the electrodes, and by measuring the voltage. In addition, it is common to monitor the respiratory movements of the patient's chest by measuring the small changes in the impedance of the chest. The impedance measurement is also a known method in the estimation of the stroke volume of the heart or changes in it. The principles of the impedance cardiography method have been presented e.g. in the book "Principles and Practice of Intensive Care Monitoring", Martin J. Tobin, McCraw-Hill 1998, ISBN:007-0650942, pages 915-921, to which reference is made herein.

Please replace the paragraph beginning at page 3, line ¹/~~8~~, with the following rewritten paragraph:

It is possible to utilize the EEG in anesthesia. Then, by observing the diagram produced by the ~~EKG~~ EEG it is possible to ensure the level of anesthesia of the patient. There is a short preamble of the above-mentioned technique presented in the article "A Primer for EEG Signal Processing in Anesthesia", Ira J. Rapol, American Society of Anesthesiologists Inc. 1998, pages 980-1002, to which reference is made herein.

Please replace the paragraph beginning at page 5, line 26, with the following rewritten paragraph:

In one embodiment of the invention, the medical monitoring system of the invention comprises signal conductors, which, according to the standard placement of electrodes, are connected to the measuring electrodes attached to the ~~patent~~ patient, and which each signal conductor comprises a first connector apparatus; and measuring

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Amendments to the Specification:

Please replace the paragraph beginning at page 1, line ⁷~~11~~, with the following rewritten paragraph:

--Methods for monitoring the electric activity of a patient are becoming common. Previously known is a method for measuring the electrocardiogram (EKG). In the measurement ~~measuring~~, electrodes are attached to the patient, and a small high-frequency current is conducted into them. By measuring the change in the voltage of the electrodes it is possible to observe the electric activity of the patient, and e.g. the muscle activity.--

Please replace the paragraph beginning at page 3, line ¹⁰~~12~~, with the following rewritten paragraph:

--One specific problem is ~~performing becoming the making of~~ measurements e.g. in a small operating room. The prior-art measuring equipment only makes one measurement each. In that case, several devices are needed to make the measurements, in which case the operating room gets filled up with expensive measuring equipment very soon.--

Please replace the paragraph beginning at page 5, line ²²~~27~~, with the following rewritten paragraph:

--In one embodiment of the invention, the medical monitoring system of the invention comprises signal conductors, which, ~~according to the standard placement of electrodes~~, are connected to the measuring electrodes attached to the patient according to the standard placement of electrodes ~~patient~~, and which each signal conductor comprises a first connector apparatus; and measuring equipment which comprises electrocardiogram (EKG), electroencephalogram (EEG), and impedance cardiograph signal equipment (IKG). According to the invention, the equipment comprises a selector switch for selecting the measurement type so that in the first position of the switch, the signal conductors are connected to the 12 lead electrocardiogram equipment (EKG), in the second position of the switch, ~~part of~~ the signal conductors are connected to the electroencephalogram equipment

(EEG), and in the third position of the switch, ~~part of~~ the signal conductors are connected to the impedance cardiograph signal equipment (IKG).--

Please replace the paragraph beginning at page 6, line ¹²~~19~~, with the following rewritten paragraph:

--In one embodiment of the invention, the system comprises a preamplifier unit ~~which in which~~ and the configuration of the electrodes is estimated based on the impedance relations of the electrodes.--

Please replace the paragraph beginning at page ⁶~~7~~, line ³³~~8~~, with the following rewritten paragraph:

--Fig. 1 represents ~~a~~ prior-art placement of electrodes;--

Please replace the paragraph beginning at page ⁶~~7~~, line ³⁵~~8~~, with the following rewritten paragraph:

--Fig. 2 represents ~~a~~ prior-art placement of electrodes;--

Please replace the paragraph beginning at page 7, line ¹~~10~~, with the following rewritten paragraph:

--Fig. 3 represents ~~a~~ illustration of the system in accordance with the invention;--

Please replace the paragraph beginning at page 7, line ³~~12~~, with the following rewritten paragraph:

--Fig. 4 represents ~~a~~ flow chart illustrating the method of the invention;--

Please replace the paragraph beginning at page 7, line ⁵~~14~~, with the following rewritten paragraph:

--Fig. 5 represents ~~a~~ circuit diagram of the invention;--

Please replace the paragraph beginning at page 7, line ⁷~~16~~, with the following rewritten paragraph:

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--Fig. 6 represents ~~aene~~ circuit diagram of the invention;--

Please replace the paragraph beginning at page 7, line ⁹~~18~~, with the following rewritten paragraph:

--Fig. 7 represents ~~aene~~ placement of the electrodes and conductors in accordance with the invention; and--

Please replace the paragraph beginning at page 7, line ¹²~~21~~, with the following rewritten paragraph:

--Fig. 8 represents ~~aene~~ placement of the electrodes and conductors in accordance with the invention.--

Please replace the paragraph beginning at page 7, line ¹²~~26~~, with the following rewritten paragraph:

--Fig. 3 represents one embodiment of the system according to~~of~~ the invention. The measuring electrodes RA, LA, RL, LL, V₁, V₂, V₃, V₄, V₅, V₆ placed on the patient P are connected to the switch K. The switch K is further connected by a first connection I to the measuring equipment of the electrocardiogram EKG, by a second connection II to the measuring equipment EEG of the electroencephalogram, and by a third connection III to the measuring equipment IKG of the impedance cardiograph signal. The switch K may be used to select what measurement ~~each time~~ is used. The switch K and the pieces of measuring equipment EKG, EEG, and IKG form one piece of integrated measuring equipment 30.--

Please replace the paragraph beginning at page ⁷~~8~~, line ³⁰~~4~~, with the following rewritten paragraph:

--Fig. 4 represents ~~aene~~ diagram illustrating the method of the invention. At first in the method, the measuring electrodes are placed on the patient. After this, the desired measurement is selected by a switch. If one wishes to measure the EKG, then the switch is turned into position I, points 42 and 43. If ~~it is the EEG that~~ is wished to be measured, then

the switch K is turned into position II, points 45 and 46. If it is ~~the~~ IKG that is wished to be measured, then the switch K is turned into position III, points 48 and 49.--

Please replace the paragraph beginning at page 8, line ³15, with the following rewritten paragraph:

--Fig. 5 represents ~~a~~one circuit diagram in accordance with the invention. The figure shows the measuring of a 12-switched EKG and EEG. The measuring electrodes RA, LA, RL, LL, V₅ needed in the measuring of a 5-switched EKG are connected via protective resistors R_{1...5} to amplifiers A_{1, 3, 5, 7, 9}. The signal is further amplified by a second row of amplifiers A_{2, 4, 6, 8}, from which there is a connection to a multiplexer MP. Further, from the four measuring electrodes RA, LA, RL, LL, a sum function SUM is calculated. From the multiplexer MP there is a connection via an analog-to-digital converter to a micro-processor PROC. Besides the aforementioned measuring electrodes, for the measuring of a 12-switched EKG and EEG, the measuring electrodes V₁, V₂, V₃, V₄, V₆ are needed that are connected via the protective resistor R_{6...10} to the amplifier A_{10, 12, 14, 16, 18}. The signal is further amplified by a second row of amplifiers A_{11, 13, 15, 17, 19}, from which there is a connection to the multiplexer MP. From the multiplexer MP there is a connection via the analog-to-digital converter to the microprocessor PROC.--

Please replace the paragraph beginning at page ⁸9, line ²⁴1, with the following rewritten paragraph:

--Fig. 6 represents ~~a~~one circuit diagram in accordance with the invention. The figure shows the measuring of a 12-switched EKG and IKG. For the measuring of a 5-switched EKG, the measuring electrodes RA, LA, RL, LL and V₅ on the left-hand corner of the figure are needed that are connected via protective resistors R_{1, 2, 4, 6, 7} to amplifiers A_{1, 3, 5, 7}. The signal is further amplified by a second row of amplifiers A_{2, 4, 6, 8}, which are further connected to the multiplexer MP. From the two measuring electrodes RA and LA there is a connection via protective resistors R_{3, 5} to the standardized measuring circuit SRIC measuring of the impedance of breathing, and which is further connected to the multiplexer MP. The multiplexer MP is further connected via an analog-to-digital converter ADC to the micro